PATENT CLAIMS

1. A method of nanofibres production from a polymer solution using electrostatic spinning in an electric field created by a potential difference between a charged electrode and a counter electrode, characterized by that the polymer solution (2) is supplied into the electric field for spinning using the surface of the rotating charged electrode (30), while on a part of the circumference of the charged electrode (30) near to the counter electrode (40) is a spinning surface (31) created, by which is a high spinning capacity reached.

2. A method as claimed in Claim 1, characterized by that the nanofibres (8) produced by the action of electrostatic field from the conducting polymer solution (2) on a spinning surface (31) of the charged electrode (30) are by the electric field drift away to the counter electrode (40) and before it they are laid down onto a device (7) for nanofibres storage and form a layer on it.

3. A method as claimed in Claim 1 or 2, characterized by that an air stream acts on nanofibres (8) in the space between the charged electrode (30) and the counter electrode (40), which promotes the nanofibres (8) to drift away of the charged electrode (30).

4. A method as claimed in Claim 3, characterized by that the nanofibres (8) are by an air stream drift away towards the counter electrode (40) before which they lay down onto the device (7) for nanofibres storage and form a layer on it.

5. A method as claimed in Claim 4, characterized by that the air stream is produced by sucking of the air from the space between the electrodes (30, 40) into the space behind the counter electrode (40).

6. A method as claimed in Claim 3, characterized by that the nanofibres are by the air stream deflected from their course towards the counter electrode (40) and are led to the device (7) for nanofibres storage pervious to air, onto which surface they are stored in a layer in a space out of

reach of the electric field between the electrodes (30, 40) where they were produced.

7. A method as claimed in Claim 6, characterized by that the air stream is produced by sucking of the air from the space between the electrodes (30, 40) into the space behind the device (7) for nanofibres storage pervious to air in regard of the charged electrode (30).

8. A method as claimed in any of Claims 4, 5, 6 or 7, characterized by that into the space where the nanofibres are drift away is an auxiliary drying air (9) supplied.

9. A method as claimed in Claim (8), characterized by that at least a part of the auxiliary drying air (9) is drawn off the space in front of the device (7) for nanofibres storage pervious to air in regard of the charged electrode (30), without passing through this device (7).

10. A method as claimed in any of Claims 3 to 9, characterized by that at least an auxiliary drying air (9) is heated up before entering the space where the nanofibres (8) are drift away.

11. A method as claimed in any of Claims 1 to 10, characterized by that the polymer solution (2) is composed of a water solution.

12. A method for carrying out the method as claimed in Claims 1 to 11 comprising the charged electrode and the counter electrode with a different potential between which an electric field is formed, characterized by that the charged electrode (30) is pivoted and by a part of its circumference it is immersed in the polymer solution (2), while against the free part of the circumference of the charged electrode (30), there is the counter electrode (40) positioned.

13. A method as claimed in Claim 12, characterized by that the counter electrode (40) surrounds the free parts of the circumference of the charged electrode (30) along its entire length.

14. A device as claimed in Claim 12 or 13, characterized by that between both electrodes (30, 40) is situated the device (7) for nanofibres storage.

15. A device as claimed in Claim 14, characterized by that the device (7) for nanofibres storage is pervious to air, while the space behind this device (7) in regard to the charged electrode (30) is connected to the vacuum source (6) serving to create an air stream directing out of the space between the electrodes (30, 40) towards this device (7).

16. A device as claimed in Claim 15, characterized by that the vacuum source (6) is connected with the space behind the counter electrode (40) pervious to air in regard to the charged electrode (30).

17. A device as claimed in Claim 12, characterized by that outside of the space between the electrodes (30, 40) is positioned the device (7) for nanofibres storage pervious to air, while the space behind this device (7) in regard to the charged electrode (30) is connected to the vacuum source (6) serving to create an air stream directing towards this device (7).

18. A device as claimed in any of Claims 13 to 17, characterized by that the device (7) for nanofibres storage is composed of a conveyor (71) pervious to air.

19. A device as claimed in any of Claims 13 to 17, characterized by that the device (7) for nanofibres storage is composed of a plane supporting material of the nanofibres (72).

20. A device as claimed in Claim 19, characterized by that the plane supporting material (72) is positioned on a conveyance (41).

21. A device as claimed in Claim 20, characterized by that the conveyance (41) is composed of a counter electrode (40).

22. A device as claimed in Claim 20, characterized by that the conveyance (41) is composed of stretching elements (42) of plane supporting material (72) of the nanofibres.

23. A device as claimed in any of Claims 15 to 22, characterized by that into the space between the electrodes (30, 40) leads an inlet (90) of auxiliary drying air (9).

24. A device as claimed in Claim 23, characterized by that in the inlet (90) of auxiliary drying air (9), there is positioned an air heating device (91).

25. A device as claimed in Claim 23 or 24, characterized by that at least a part of air is drawn off the space in front of the device (7) for nanofibres storage in regard of the charged electrode (30), without passing through this device (7).

26. A device as claimed in any of Claims 12 to 25, characterized by that the charged electrode (30) is composed of an axially symmetric body, where the axis is at the same time an axis of rotation.

27. A device as claimed in Claim 26, characterized by that the charged electrode (30) is composed of a roll (3).

28. A device as claimed in Claim 27, characterized by that the roll (3) is on its circumference fitted with lugs (31) and/or recesses (32).